Paper Reference 31761H

Pearson BTEC Level 3

Nationals Certificate, Extended Certificate, Foundation Diploma, Diploma, Extended Diploma

INFORMATION TECHNOLOGY
UNIT 2: CREATING SYSTEMS TO
MANAGE INFORMATION   (PART A)

Thursday 16 January 2020 – Afternoon

Time: 3 hours (plus your additional time allowance)

YOU MUST HAVE:
- **activity2.rtf**
- **activity3.rtf**
- **activity4.rtf**

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ITEMS INCLUDED WITH QUESTION PAPER

- **A separate Data Booklet.**
- **Instructions to Invigilators.**
- **Instructions for Learners.**
- **Part A Set Task Brief.**

INSTRUCTIONS

- **Part A and Part B contain the material for the completion of the set tasks under supervised conditions.**
- **There are 40 marks for Part A and 26 marks for Part B, giving a total mark for the set tasks of 66.**
- **Part A and Part B are specific to each series and this material must be issued only to learners who have been entered to take the tasks in the specified series.**
- **Learners MUST ONLY have access to Part A during this examination session.**
- **This booklet should be kept securely until the start of the 3 – hour supervised assessment period.**
- **Part A and Part B should be submitted together for each learner.**

- **This booklet should not be returned to Pearson.**
- **Answer ALL activities.**

INFORMATION

- **The total mark for this paper is 40.**

Part A SET TASK

YOU MUST COMPLETE ALL ACTIVITIES WITHIN THE SET TASK.

PRODUCE YOUR DOCUMENTS USING A COMPUTER.

SAVE YOUR DOCUMENTS IN YOUR FOLDER READY FOR SUBMISSION USING THE FORMATS AND NAMING CONVENTIONS INDICATED.

Activity 1 is on the next page.

ACTIVITY 1: DATABASE RELATIONSHIPS

SCREENPRINT – You are advised to spend 45 minutes (plus your additional time allowance) on this activity.

Look at **Figure 1** for ACTIVITY 1 in the separate Data Booklet.

Figure 1 shows an extract of the data Rockhill Music Festival would like to record.

Study the data extract provided in **Figure 1**.

Create an efficient database structure that:

- minimises data duplication
- accepts the data provided
- uses recognised naming conventions
- ensures data integrity.

Ensure you use ALL and ONLY the fields shown in **Figure 1**.

Screen print your database relationships.

Save your database relationships screenprint as a PDF in your folder for submission as

activity1_[Registration number #]_[surname]_ [first letter of first name]

(TOTAL FOR ACTIVITY 1 = 8 MARKS)

Activity 2 is on the next page.

ACTIVITY 2: TABLE STRUCTURES AND VALIDATION – You are advised to spend 45 minutes (plus your additional time allowance) on this activity.

Create efficient table structures based on ACTIVITY 1 and the data shown in **Figure 1**.

The table structures must use suitable validation to meet these requirements:

- a record will not save without the customer's surname being present
- a record will not save if the customer telephone number is not in the correct format
- a record will not save if the customer is assigned an invalid customer type
- a record will not save if the cost of a ticket is not one of the three permitted values
- a record will not save if a ticket sale does not have a valid customer
- a record will not save if a ticket sale does not have a valid ticket type.

Input the data given in **Figure 1** into your relational database.

Evidence your table structures and validation as screenprints using the given **activity2.rtf** template.

Display your screenprints to show:

- the design view of each table showing the structure, including the fields and data types
- validation including one suitable example for each of these:
  - presence check
  - length check
  - value lookup
  - table lookup
  - format check.

Save your evidence of the table structures as a PDF in your folder for submission as

activity2_[Registration number #]_[surname]_ [first letter of first name]

(TOTAL FOR ACTIVITY 2 = 8 MARKS)

Activity 3 is on the next page.

ACTIVITY 3: QUERIES AND REPORT – You are advised to spend 40 minutes (plus your additional time allowance) on this activity.

Queries

(a) **Create a query to display an alphabetically sorted list of regular and new customers.**
It must show the customer name and telephone number only.

(b) **Create a query that would allow a user to enter a parameter value for the ticket type when run. Calculate and display the:**
- **number of tickets unsold**
- **potential income from unsold tickets.**

Evidence your queries as screenprints using the given activity3.rtf template.

Your screenprints must show:
- **the DESIGN view of the two queries specified that you have created, including fields and criteria**
- **the DATASHEET view of the two queries specified that you have created.**

Report

(c) Create a report that shows the effect of having a 3% discount on the ticket price for tickets that have been sold.

Calculate:

- the original income from ticket sales
- the potential discount
- the discounted ticket sales.

Display:

- a suitable report title
- the ticket types
- the original ticket sales
- the potential discount
- the discounted ticket sales.

The report must fit on one page.

Evidence your report as screenprints using the given **activity3.rtf** template.

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Your screenprints must show:

- the **DESIGN** view of the report you have created, including grouping and calculations
- the **DESIGN** view of any queries you have created and used with the report, including fields and criteria
- the **DATASHEET** view of any queries you have created and used with the report.

Save your query and report evidence as a PDF in your folder for submission as

activity3_[Registration number #]_[surname]_ [first letter of first name]

(d) Save your database report (not a screenprint) as a PDF in your folder for submission as

activity3d_[Registration number #]_[surname]_ [first letter of first name]

(TOTAL FOR ACTIVITY 3 = 12 MARKS)

Activity 4 is on the next page.

ACTIVITY 4: STRUCTURE TESTING – You are advised to spend 20 minutes (plus your additional time allowance) on this activity.

Test the structure and the validation of your relational database using suitable test data (normal, erroneous and extreme as appropriate).

You must provide evidence of table level testing that proves:

1. **a record will not save without the customer's surname being present**
2. **a record will not save if the customer telephone number is not in the correct format**
3. **a record will not save if the customer is assigned an invalid customer type**
4. **a record will not save if the cost of a ticket is not valid for the type of ticket**
5. **a record will not save if a ticket sale does not have a valid customer**
6. **a record will not save if a ticket sale does not have a valid ticket type.**

Complete the test log to show how you have tested the structure and validation of your database using the given **activity4.rtf** template.

Save your test log as a PDF in your folder for submission as

activity4_[Registration number #]_[surname]_[first letter of first name]

(TOTAL FOR ACTIVITY 4 = 6 MARKS)

Activity 5 is on the next page.

ACTIVITY 5: STRUCTURE EVALUATION – You are advised to spend 20 minutes (plus your additional time allowance) on this activity.

Evaluate your database structure and validation.

You should consider:
- **how well your database structure has minimised data duplication**
- **how well your database structure meets these requirements:**
    - **there are different types of customer. For example, a customer can be a guest of the organiser**
- **There are three different types of ticket:**
    - **a Friday ticket will cost £39.00**
    - **a Saturday ticket will cost £49.00**
    - **a two day camping ticket will cost £88.00**

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Save your evaluation as a PDF in your folder for submission as

activity5_[Registration number #]_[surname]_ [first letter of first name]

(TOTAL FOR ACTIVITY 5 = 6 MARKS)

TOTAL FOR PART A = 40 MARKS